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PSEUDOTORINIA BULLISI, NEW SPECIES (GASTROPODA: ARCHITECTONICIDAE) FROM SUBTROPICAL WESTERN ATLANTIC

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The species we describe herein was first mentioned by Merrill (1970), in his unpublished study of the Atlantic Architectonicidae. The senior author is completing a study of the Indo-Pacific species of Architectonicidae and needs an available description of this species for purposes of comparison with some closely related species of the Indo-Pacific. We place the species in the genus *Pseudotorinia* Sacco, 1892, based on the revision by Bieler (1985). Terminology of shell sculpture follows Bayer (1940:224) and Bieler (1984:455).

Pseudotorinia bullisi, new species

Fig. 1

Description: Shell small, solid, with a maximum diameter of 10.2 mm and height 3.6 mm, upper surface flattened, with only a weakly channeled suture; base slightly convex and obliquely angled to about halfway, then flattened on to the umbilicus. Color whitish, irregularly mottled with light-brown, or uniform light-cream. Whorls up to $4\frac{1}{8}$, strongly angulated, tightly coiled and joined at the midline of the prominent peripheral cord. Protoconch small, smooth, anastrophic, and after emerging, continuing for about $\frac{1}{2}$ whorl, then forming a distinct varix, with 2 whorls of the emerging protoconch clearly visible from dorsal view. Dorsal spiral sculpture is composed of very strong subsutural and peripheral cords, and a prominent penultimate cord between, with shallow excavations on either side; 2 minor cords and (on larger specimens) several threads lie within the

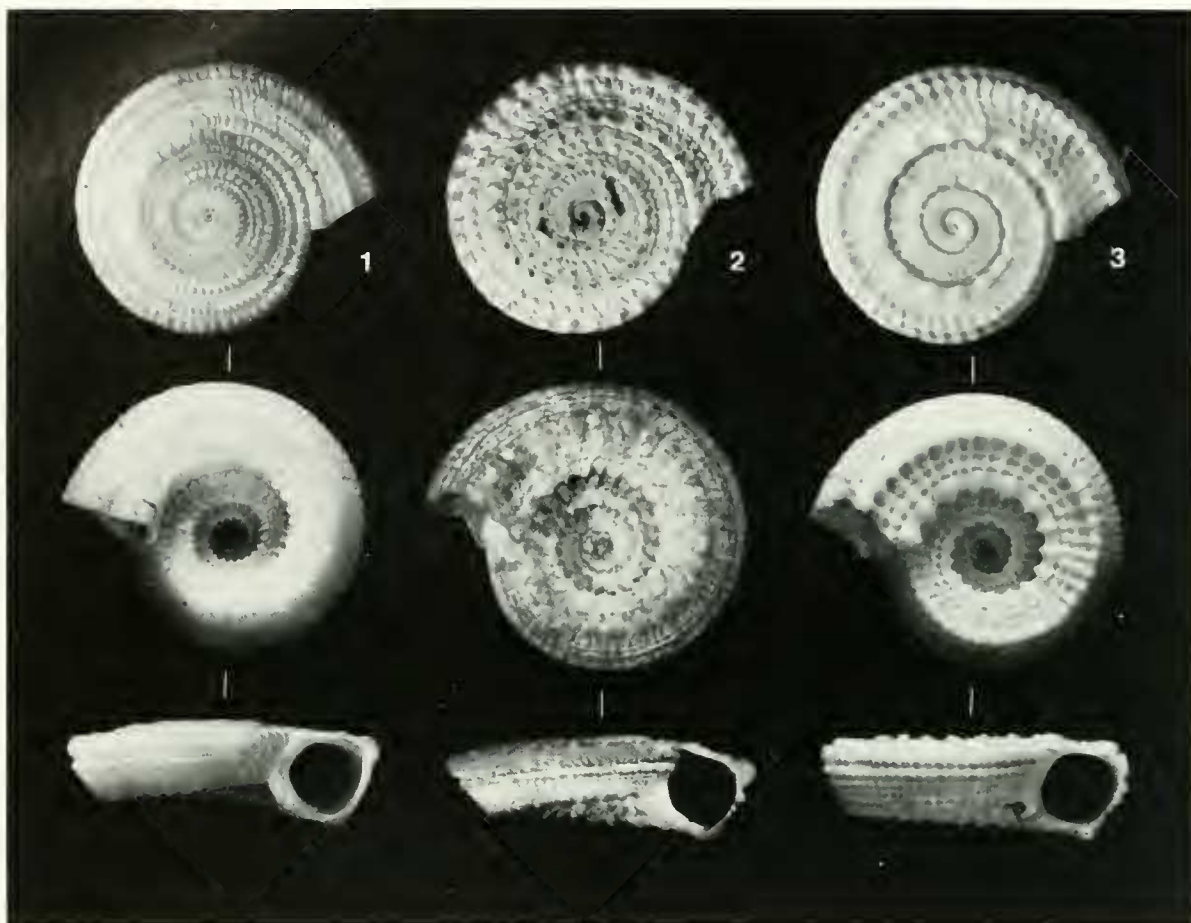
excavation between the sutural and penultimate cord. Basal spiral sculpture includes an infraperipheral cord with a deep narrow excavation between it and the peripheral cord, a very strong cord (basal keel) centrally located at the angulation where the base flattens, a strong crenulated umbilical cord, and 2 weaker cords between the central cord and the umbilical cord; approximately 8 weak threads are formed on the base between the infraperipheral cord and the basal keel. Numerous faint axial lines cut the entire surface of the shell. All cords are strongly elevated, and evenly nodulose. Umbilicus widely open (39-46% of the shell diameter), the walls marked with scaly axial lines. Aperture angular, the peripheral edge slightly bulging and the sides straight. Operculum and animal unknown.

Dimensions:

| | Maximum diameter | Height | Teleoconch whorls | Umbilical width | Protoconch diameter |
|------------|------------------|--------|-------------------|-----------------|---------------------|
| Holotype | 10.2 mm | 3.6 mm | $4\frac{1}{8}$ | 4.1 mm | 0.62 mm |
| Paratype 1 | 4.0 | 1.2 | $2\frac{5}{8}$ | 1.8 | 0.62 |
| Paratype 2 | 4.9 | 1.6 | $2\frac{7}{8}$ | 2.2 | 0.62 |
| Paratype 3 | 4.2 | 1.6 | $2\frac{5}{8}$ | 1.6 | 0.62 |

Remarks: The shell characters of *Pseudotorinia bullisi* place it near *P. numulus* (Barnard, 1963) of the Indian Ocean (fig. 2, first published photograph of that species); *P. numulus* has a larger protoconch (0.70-0.76 mm), and there are 3-5 well-developed cords below the infraperipheral which are lacking or reduced to occasional threads in *P. bullisi*.

In the Atlantic, the *Pseudotorinia architae* (Costa, 1841) complex displays similar shell



FIGS. 1-3. 1, *Pseudotorinia bullisi* n. sp. (holotype USNM 819925; greatest diameter 10.2 mm). 2, *Pseudotorinia numulus* (holotype of *Heliacus numulus* Barnard, 1963; SAM A9125; greatest diameter 4.5 mm). 3, *Pseudotorinia retifera* (holotype of *Discohelix (Discosolis) retifera* Dall, 1892; USNM 83695; greatest diameter 4.4 mm).

characters (fig. 3 shows the type of *P. retifera* (Dall, 1892), a Pliocene representative of that group from Western Atlantic waters). The suture is not channeled in *P. bullisi* as in *P. retifera*, and the major spiral cords are more elevated and more coarsely nodulated, with the axial markings less prominent. In *P. retifera* the dorsal penultimate cord is closer to the peripheral cord and not as deeply excavated between. As in *P. numulus*, *P. retifera* has 3 well-developed cords below the infraperipheral which are reduced or lacking in *P. bullisi*. The umbilical cord is stronger in *P. retifera*, but the basal keel is weaker. The upper part of the base is more convex in *P. retifera*, and more obliquely angled in *P. bullisi*.

Types: Holotype and Paratype 1 of *Pseudotorinia bullisi* are in the National Museum of Natural History, Washington (USNM 819925

and 500298), and paratypes 2 and 3 in the Museum of Comparative Zoology at Harvard University, Cambridge (MCZ 262982). The type locality (holotype and paratypes 2 and 3) is *R/V Oregon* station 518, about 90 miles southwest of Pensacola, Florida (29°23.2'N. Lat.; 88°03.0'W. Long.), at a depth of 82 meters. Paratype 1 is from the Smithsonian University of Iowa Expedition 1918, Barbados station D.3, on a sandy bottom off Pelican Island in 137-146 m.

Range: The four known specimens are from off Florida and Barbados in depths of 82-146 m.

Etymology: *Pseudotorinia bullisi* is named for Mr. Harvey R. Bullis, who formerly headed a Bureau of Commercial Fisheries Exploratory Base at Pascagoula, Mississippi. Mollusk material sent by Mr. Bullis from his exploratory missions greatly enhanced Merrill's (1970) study of the Atlantic Architectonicidae.

Acknowledgments

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A COMMENT ON STROPHITINAE GORDON, 1984 (UNIONIDAE, BIVALVIA)

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The history of the suprageneric taxonomy of unionid bivalves was traced by Heard and Guckert (1971) and by Davis and Fuller (1981). Haas (1969a, b) provided the latest comprehensive supraspecific monograph of the Unionacea but his classification was questioned by Heard and Guckert (1971) and Davis and Fuller (1981). Heard and Guckert (1971:336) noted that *Strophitus* Rafinesque, 1820, is "more correctly considered as a single group unlike any other subfamily", but included *Strophitus* in the Anodontinae (Heard and Guckert, 1971:340). Davis and Fuller (1981) did not discuss *Strophitus*.

Gordon (1981:58) in discussing the unionids of Arkansas created the new tribe Strophitini, for *Strophitus* Rafinesque, 1820. Gordon (1985:8, in footnote to Table 1) raised the Strophitini to subfamilial status, but omitted any discussion or justification for his action. He did not present any arguments about the relationships of this

new subfamily to the other subfamilies in the Unionidae. However, neither the taxonomic validity nor the method of publication of Gordon's name Strophitini or Strophitinae are at issue here.

Gordon was apparently unaware of a previous use of Strophitinae. Starobogatov (1970:69, 287) erected a new subfamily Strophitinae in the family Lampsilidae for *Strophitus* Rafinesque, 1820. The following translation of Starobogatov's (1970:287) justification for his new subfamily is provided for those who do not have access to the original Russian publication:

Subfam. Strophitinae Starobogatov, subfam. n.

The shell has a weakened or rudimentary hinge. The beak sculpture consists of lirae (ribbing) which run in almost parallel lines of growth and turn abruptly upward in the rear. The marsupial pouches occupy the external half of the gills completely. Secondary water tubes during pregnancy bear the young. Each ovisac is divided by transverse partitions into a series of chambers. Growth is even, the glochidia do not parasitize fish.